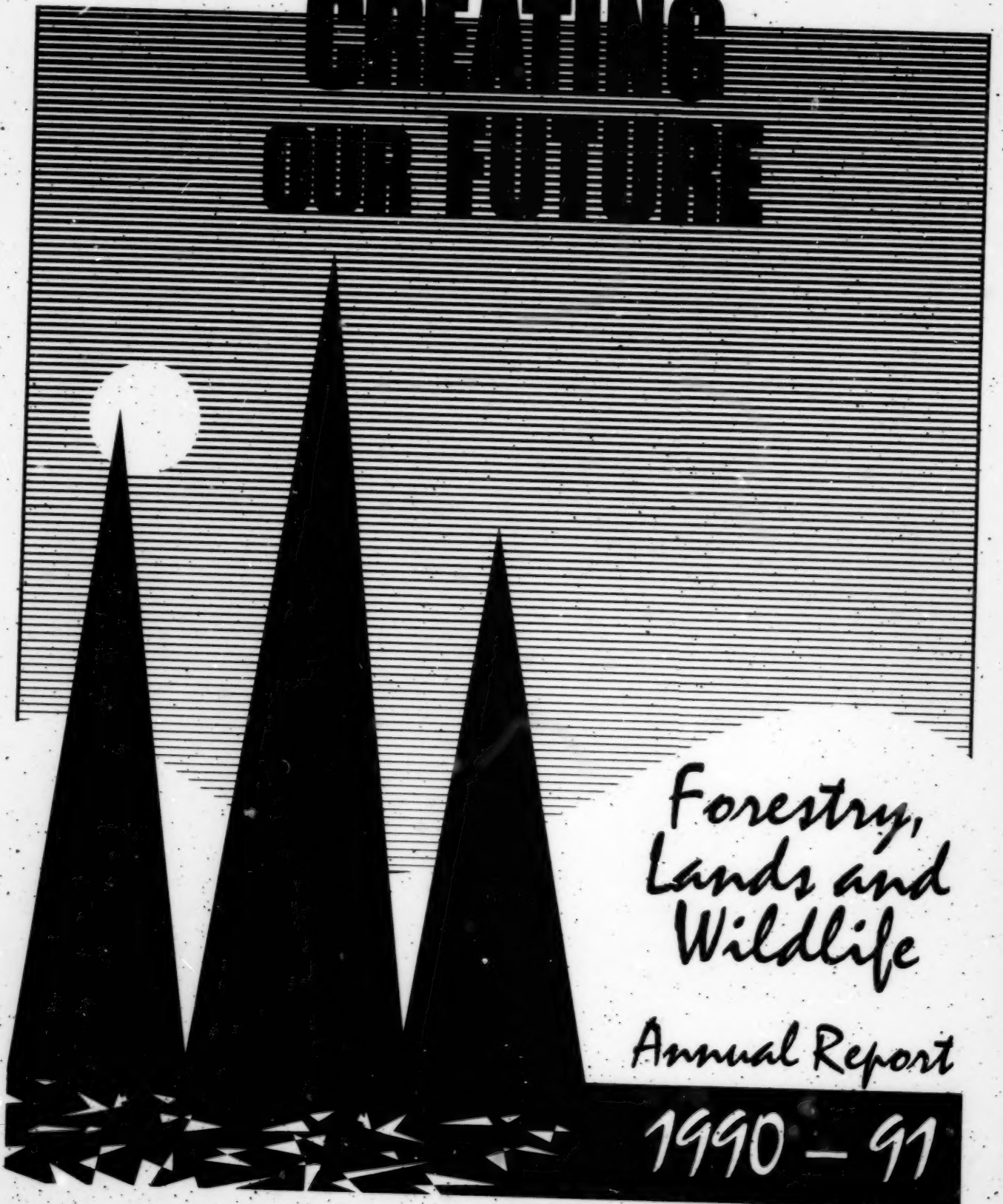
CREATING OUR FUTURE



Forestry, Lands and Wildlife

Annual Report

1990 – 91

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Alberta
FORESTRY, LANDS
AND WILDLIFE

Office of the Minister

408 Legislature Building, Edmonton, Alberta, Canada T5K 2B6 403/427-3674

April 30, 1992

The Honourable Gordon Towers
Lieutenant Governor of the Province of Alberta

May it please your Honour:

For the information of your Honour and the Legislative Assembly, it is my privilege to present the Annual Report of the Department of Forestry, Lands and Wildlife, for the fiscal year ended March 31, 1991.

Respectfully submitted,

LeRoy Fjordbotten

LeRoy Fjordbotten
Minister of Forestry, Lands and Wildlife

MINISTER'S MESSAGE

This year marks another year of accomplishments for Alberta Forestry, Lands and Wildlife.

During 1990-91, emphasis was placed on creating a vision for the department that will meet the challenges of the future. Through the strategic planning initiative, *Creating Our Future*, a mandate and mission statement were developed and endorsed. Operating beliefs and philosophies were established to support the mission statement and help guide the department in "managing for sustainability, the integrated use of resources and a healthy environment, in harmony with the needs of Albertans".

The department took a giant step toward achieving this mission with the implementation of some of the toughest reforestation standards in the world. The "Free to Grow" standards set new bench marks for tree establishment and growth and will be significant in ensuring and maintaining the long-term sustainability of new forests. As under past standards, industry will be responsible for meeting these reforestation requirements.

In order to accommodate the anticipated increased demand for seedlings, a major retrofit and expansion of the Pine Ridge Forest Nursery in Smoky Lake began. The expansion will increase the nursery's total annual capacity to 33.5 million seedlings from the current 24.5 million.

During the year, the department planted more than ° million seedlings, seeded more than 2,000 ha and conducted site preparation on 9,483 ha. As well, 640 ha were manually cleaned and tended and 1,744 hectolitres of cones were collected.

The Expert Panel on Forest Management, chaired by Dr. Bruce Dancik of the University of Alberta, released its findings. This report identified issues of concern to Albertans and recommended actions that could be taken. The department has begun a detailed analysis of the final report.

It was a significant year for Alberta's forest industry. Four construction or expansion projects for pulp and paper mills were completed, representing a $1.5 billion capital investment. Mills completing work were Weldwood of Canada, Daishowa Canada, Alberta Newsprint Company and Alberta Energy Company. As well, the Alberta-Pacific pulp and paper project received approval to proceed with construction. This mill represents a further investment of $1.6 billion.

The Prairie Conservation Coordinating Committee continued to implement the Prairie Conservation Action Plan, which is aimed at conserving the biological diversity of the province's prairie and parkland ecosystems.

Six new Natural Areas were designated, a substantial addition was made to an existing site and six additional sites were placed under protective notation for Natural Area purposes. This designation protects sensitive or scenic public land from disturbance and ensures the land remains in a natural state for recreation, education and natural heritage-appreciation activities.

Ecological studies were completed for six Natural Areas. Environmentally significant area (ESA) studies were completed for the municipal districts of Acadia, Starland and Kneehill.

The Integrated Resource Planning (IRP) program continued to play a key role in achieving the Alberta government's philosophy of integrated resource management. Work continued on four regional, seven subregional and seven local integrated resource plans which will guide resource management decision making in each planning area.

The department entered into an agreement for parcel mapping with three utility companies. As a result, a four year $24.6 million committment was made by the government to complete this project

and develop the Land-Related Information Systems (LRIS) Network. The LRIS Network will provide remote, electronic access to integrated land-related information systems across the province and will be one of the most advanced systems in North America.

The Report A Poacher program is a continuing success, with 3,800 reports of illegal fish and wildlife activity received on the 1-800-642-3800 phone line or directly at Fish and Wildlife district offices.

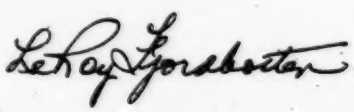
Work continued to eradicate Infectious Pancreatic Necrosis (IPN) virus from Sam Livingston Fish Hatchery. The facility will be restored to production in late 1991, with full production achieved in 1992-93. Eradication of IPN virus at Raven Brood Trout Station appears to have been fully successful. This facility will return to full egg production potential in 1992-93, as 1989 replacement brood stock reach maturity.

The North American Waterfowl Management Plan, a wetlands conservation project funded jointly by partners in the United States and Canada, saw some major accomplishments. The Buffalo Lake First Step project acquired 800 ha of prairie upland and wetland habitat, and several soil conservation initiatives were implemented in cooperation with agricultural agencies.

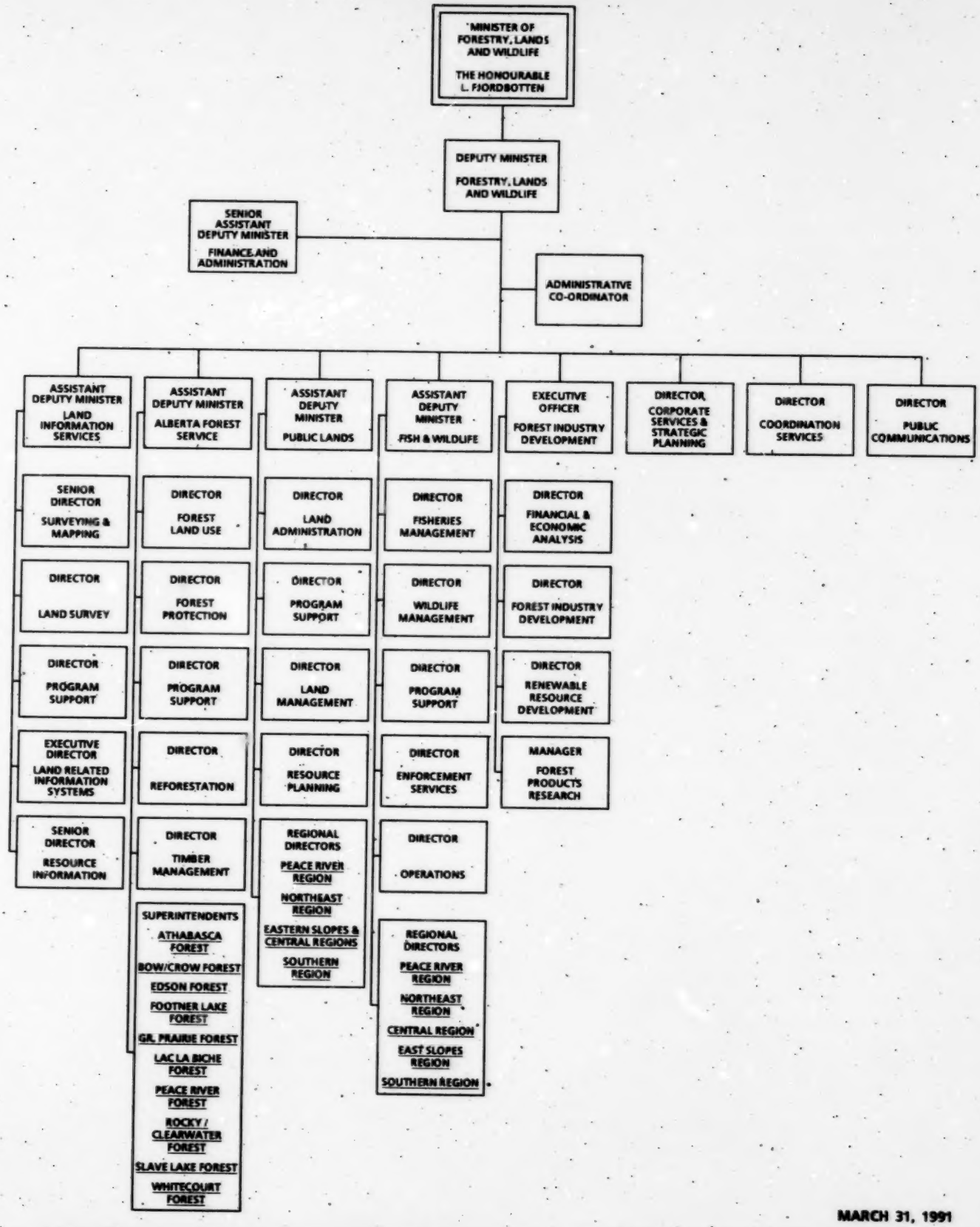
Two important habitat protection and management projects were initiated involving municipalities and landowners as key players. The department and the County of Barrhead presented Partners in Conservation. As well, the County of Strathcona, Sherwood Park Fish and Game Association, Environment Canada and the department joined together to develop CONSERV*ACTION.

I was pleased to be a partner in creating the new comprehensive document, A Wildlife Policy For Canada. This policy, endorsed by the department and all other wildlife jurisdictions across Canada, is intended to maintain and enhance the health and diversity of Canada's wildlife while recognizing human enjoyment of, and the need to sustain benefits from, this resource.

This was a year in which the department built upon its strong foundation of responsible resource management. With a focus on the future, we know that, through proper management, our valuable natural resources will continue to flourish as sources of enjoyment, providing ecological and economic diversity, for many generations to come.



LeRoy Fjordbotten
Minister



MARCH 31, 1991

OVERVIEW

As stewards of fish, wildlife, forests and public lands, Alberta Forestry, Lands and Wildlife manages these resources for sustainability, integrated use and to maintain a healthy environment in harmony with the needs of Albertans.

This mission guides and clarifies the roles of the department's five divisions: Alberta Forest Service, Forest Industry Development, Public Lands, Land Information Services and Fish and Wildlife.

In the Green Area (encompassing approximately 60 per cent of the provincial land base), the **Alberta Forest Service** (AFS) is responsible for timber, range and watershed management; reforestation and reclamation; recreational uses; regulation of petroleum and natural gas exploration and development; oil sands, coal, geophysical and land dispositions; the Junior Forest Warden and Junior Forest Ranger programs; and protecting the forests from fire, disease and insect infestation.

Forest Industry Development is responsible for encouraging responsible, sustainable use of public land and resources. This division encourages companies and private investors in their efforts to effectively use Alberta's timber resources to produce a variety of forest products; to expand export markets; to maintain their technological competitiveness; and to invest in forest products research and development. It is also responsible for attracting private sector investment in other uses of public land and resources such as recreation and tourism development.

Public Lands manages public land in the White (settled) Area which may be: leased for grazing, cultivation, recreation, tourism, commercial and industrial activities; designated as Natural Areas, grazing reserves or used by other departments or agencies; and sold for farms, plant sites or various commercial-industrial purposes. The division emphasizes integrated resource planning, soil and range conservation, shoreline protection and industrial land management to ensure resources are maintained for the future. It is also responsible for land administration in both the White and Green Areas and for the Foreign Ownership of Land and Land Agents Licencing programs.

Land Information Services manages and coordinates natural resource information on behalf of the department and provides land and resource related products and services to government and the public. The division's responsibilities include: administration of land survey legislation; a survey control framework; provincial, municipal and natural resources base mapping programs in hard copy and digital formats; resource information collection and analysis; distribution and sale of maps and other land information products; and the development of the provincial Land-Related Information System Project.

Fish and Wildlife manages wildlife resources to benefit all Albertans. A wildlife conservation and protection agency, it manages and protects endangered and threatened species. The division enforces big game hunting and fishing regulations. As well, it manages habitat and fish and wildlife populations to meet the needs of local residents, commercial fishermen, hunters and visiting sports and recreation enthusiasts.

In addition to these five line divisions, three branches provide support to the department.

Coordination Services manages activities requiring the participation of more than one division or department. These include the department's involvement in Native land claims, implementation of the Prairie Conservation Action Plan and promoting integrated resource management across Alberta through regional resource coordinators. It also operates a centralized correspondence unit.

Corporate Services and Strategic Planning conducts issue management, policy management, policy analysis, process consulting, research and other support services for the department's senior management, the Deputy Minister and the Minister. As well, this group is responsible for coordinating the department's strategic planning initiative.

Public Communications advises the department on all aspects of public relations through consultation and services that include: communication planning; issues management; development and placement of electronic and print advertising; media relations; display coordination, design and production; creative design and printing coordination; and audio-visual production.

Forestry, Lands and Wildlife shares, with the department of Energy, the Finance and Administration area which provides a number of additional support services.

General Services manages the Province's Registry of Crown Land and the corporate record systems. This Division provides mail and messenger services, operates the reference library, manages the public information centres and provides editorial, drafting and accommodation services.

Internal Audit examines financial and operating activities to ensure internal accounting and administrative controls function properly. It reviews computer-based systems, helps divisional managers evaluate program efficiency and economy, and conducts management audits.

Financial Services provides all departmental accounting functions including accounts receivables/accounts payables, budgeting, financial planning and expenditure tracking.

Automated Information Systems Division provides consultation in automated data and office automation systems with the aim of increasing productivity through the introduction of new technology. As well, the Division is responsible for maintaining, enhancing and integrating existing corporate systems.

Human Resources provides services related to recruitment, classification, wage and salary administration, employee relations, staff and organizational development, human resource information management, security and occupational health and safety. The Forest Technology School in Hinton, which operates as part of Human Resources, provides training facilities for the department.

IN REVIEW
April 1, 1990 - March 31, 1991

The department of Forestry, Lands and Wildlife is dedicated to responsible management of Alberta's fish, wildlife, forests and public lands. Of the 1,650 full-time employees, almost 60 per cent are professional and technical (seasoned scientists, technologists, educators, planners and agents) with an accumulated 10,000 years of post-secondary education and experience. In order to meet the growing public demand, the department's services were offered throughout more than 100 Alberta communities. Half of the department's staff live outside Edmonton and in the communities they serve. It is their familiarity with the unique needs of their community, coupled with their professional skills in resource management, that has become a strong human resource foundation for the work of the department.

FORESTRY FACTS 1990-91	
Productive forest land	183,000 km^2
Potentially productive land	20,000 km^2
Standing forest volume	2.2 billion m^3
Annual Allowable Cut	24,829,963 m^3
1990-91 Total Timber Harvest	11,645,085 m^3
Coniferous = 80%	9,326,603 m^3
Deciduous = 20%	2,318,482 m^3
Sawlogs & peeler logs	77 %
Pulp wood	22 %
Other	1 %
Albertans Received:	
Christmas Trees	26,341
Tree Transplants	10,444
1990-91 chip sales to Alberta, B.C. and U.S. pulpmills	2,070,297 m^3

Timber Management

Alberta's productive and potentially productive forest lands cover 183,000 km^2 and 20,000 km^2 respectively, or a total of over 30 per cent of the province. Alberta has approximately 2.2 billion m^3 of standing coniferous and deciduous timber.

The increased pace of forestry development in Alberta led to an unprecedented level of timber management activity. One new Forest Management Agreement (FMA) was signed with Slave Lake Pulp Corporation. As well, negotiations were underway to draft or amend four other agreements.

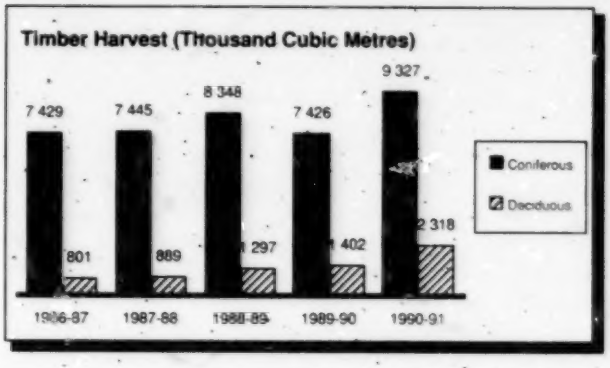
TIMBER DISPOSITIONS ISSUED 1990-91	
Forest Management Agreement (Slave Lake Pulp Corporation)	1
Coniferous Timber Quota (CTQ)	3
Deciduous Timber Allocation (DTA)	2
Licences	
Coniferous, CTQ	40
Deciduous, DTA	11
Commercial Timber Permits	
Coniferous (green)	84
Coniferous (dead/damaged)	11
Deciduous (green)	15
Deciduous (dead/damaged)	9
Local Timber Permits	921
Forest Product Permits	18,152
Christmas Tree Permits	5,019
TOTAL (1)	**24,268**

(1) Timber Dispositions decreased 21.7% from the 1989-90 level which was 30,994. Of the total dispositions, 176 were considered major dispositions.

During the year, one preliminary and two detailed FMA management plans were approved, while seven other FMA plans were worked on.

A public involvement process was introduced for forest management planning on FMAs. This process requires FMA holders to consult with the public in the development of their detailed forest management plan, and then provide opportunities for public review of the completed draft plan. In addition, companies are encouraged to establish public liaison committees, comprised of local interest groups, to provide ongoing advice on forest management issues.

The record timber harvest of 9,326,603 m^3 of coniferous timber and 2,318,482 m^3 of deciduous timber was an increase of 26 per cent and 65 per cent, respectively, over the previous year. The 1990-91 harvest represented 65 per cent of the coniferous annual allowable cut and 22 per cent of the deciduous annual allowable cut.



Reforestation

New provincial "Free to Grow" reforestation standards were implemented on March 1st. These standards are a significant step in ensuring the long-term sustained growth of new forests and addressing problems that have been identified on some reforested coniferous cutovers such as low survival or growth rates of seedlings.

Regeneration surveys were completed on 18,827 ha of cutover land. Site preparation was done on 9,483 ha, 2,008 ha were seeded, and 6,451 ha planted (with 9,117,392 spruce and pine seedlings). AFS manually cleaned and tended 640 ha and collected 1,744 hectolitres of pine and spruce cones (predominantly pine).

Pine Ridge Forest Nursery

A major retrofit of facilities and expansion of greenhouse space began in late 1990. The expansion will increase the nursery's annual capacity from 24.5 to 33.5 million seedlings (gross).

Pine Ridge processed 15,750 hectolitres of cones, resulting in 8,235 kg of seed.

SEEDLINGS SHIPPED 1990-91	
Bareroot (Pine Ridge)	6 917 000
Container (Pine Ridge)	12 298 000
Container (contracts)	18 046 000
Total	**37 261 000**

As part of the forest genetics program, three white spruce seed orchards were expanded and two new seed orchards for tamarack and black spruce were established. As well, a farm site was purchased and will be used to develop a cooperative seed orchard with forest industry. Eighty-nine superior trees were selected, propagated and established in the seed orchards and clone banks at the nursery.

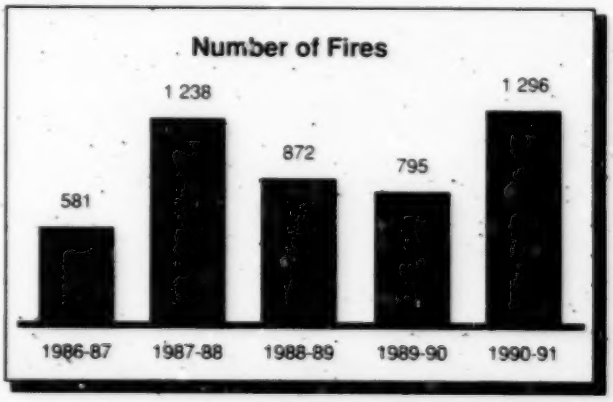
The genetics seed bank was expanded to 250 additional seedlots. Field trials were run for genetic testing of lodgepole pine and to screen winter hardiness of Douglas fir, Scots and red pine. As well, cooperative improvement projects continued in seed and wood technology with the forest industry.

Forest Protection

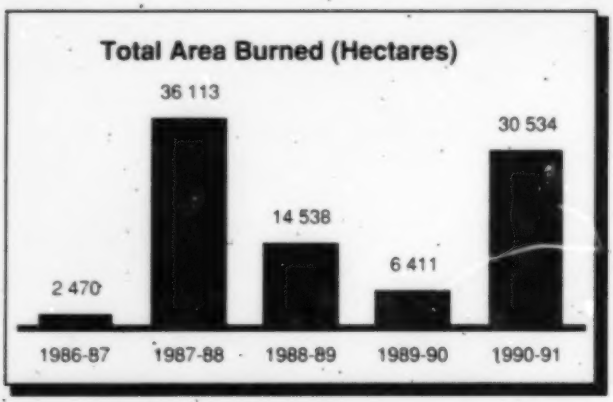
The fire season started in three of Alberta's ten forest regions with very dry weather and fuel conditions. The Lac La Biche/Bonnyville area, Fort Chipewyan and area north of Lake Athabasca and the Caribou Mountains in the Footner Lake Forest, had lower than average precipitation in the fall of 1989 and received very little snow over winter.

During fire season, the province experienced numerous lightning storms, high winds and precipitation was below average. Usually lightning activity declines in late July and early August, particularly in the northern remote areas, but, this was not the case in 1990. As a result, a one-day record of 109 fire starts was set on August 6th.

A total of 1,296 fires burned 30,534 ha within the forest protection area; 921 were caused by lightning and 375 were started by man. This compares to a 10 year average (1981/82 to 1990/91) of 210,000 ha burned per year.

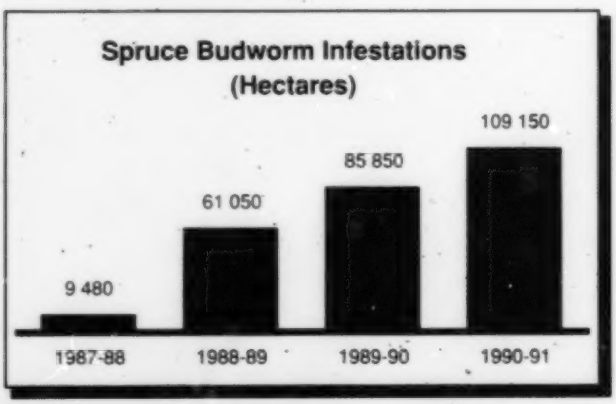


The sharing of manpower and equipment with other provinces through mutual aid was again effective. Alberta responded to ten resource requests and received assistance on nine occasions.



There was a significant amount of work in forest insect and disease management.

The spruce budworm infestation increased to 109,150 ha with the largest infestation occurring on 95,000 ha in Footner Lake Forest with other infestations in the Lac La Biche, Grande Prairie and Peace River forests. AFS aerially sprayed a biological insecticide (B.t.) over 11,000 ha of infested stands in the Footner Lake, Grande Prairie and Peace River forests.



Mountain pine beetle infestations remained in the endemic stage. Movement of the beetle was closely monitored due to major outbreaks in British Columbia, adjacent to the Bow/Crow Forest.

Forest tent caterpillar defoliation declined from 1,179,800 ha in 1989 to 609,272 ha.

Recreation

Camping, canoeing, snowmobiling, cross-country skiing, hunting, fishing and horseback riding continued to attract Albertans and tourists to forested land. Back-country use continued an upward trend, increasing the need for maintenance and patrols to monitor back-country activity.

AFS maintained 114 km of cross-country ski trails and 707 km of snowmobile trails. It managed 206 recreation areas, consisting of 4,388 camping units and 1,661 day use units. It is estimated that more than 600,000 people used these campgrounds last year.

Joint-venture agreements with non-profit associations and municipalities were developed and implemented to build and maintain recreation amenities such as snowmobile trails, cross-country ski trails and campgrounds.

Consultation with the public and private industry regarding land use and recreational decisions were provided for:

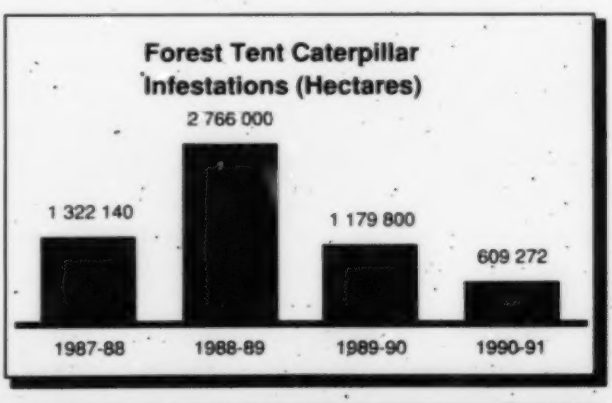
- the draft Castle River Access Management Plan, which is being developed to resolve conflicts related to motorized recreational activities; and
- the Lakeshore Management Plan for Fawcett Lake.

Initiated as a pilot program in 1988 in the Rocky/Clearwater Forest, the Volunteer Campground Host Program provides an opportunity for individuals to work with AFS to offer recreational opportunities to the public. This successful program was extended to the Bow/Crow Forest during 1990-91.

Watershed Management

A training program to increase skills in watershed management was developed and implemented for both AFS staff and the forest industry. Post-watershed assessments were conducted and the WRENSS (Water Resources Evaluation of Non-point Silvicultural Sources) model was used to evaluate potential changes in water flows as a result of timber harvesting activities.

Several projects to help provide baseline information for watershed management were carried out. In response to public concern about adequate watershed protection in the Bow/Crow Forest, information on stream flow and



suspended sediment levels was gathered. An analysis was also carried out on the potential for natural, as compared to man-caused, streambank erosion in the headwaters of the Swan River.

Expert Review Panel on Forest Management

In 1989 the Minister appointed a panel, chaired by Dr. Bruce Dancik, to evaluate public concerns about the expanding forest industry and the state of forest management in Alberta.

The panel delivered its report, which endorsed Alberta's overall system of forest management. The report said, "The present forest management system includes security of tenure, detailed forest management planning, and reforestation requirements unmatched elsewhere in Canada." Forest management agreements, as long-term, area-based tenures, received support, as did the department's integrated resource planning program for determining land use priorities. Clearcutting was endorsed as an appropriate harvest method under many circumstances. Support was given to Alberta's reforestation system and standards and to operating ground rules as the key to forest management.

The report identified the need for greater public involvement in forest management planning. Among the recommendations were that the Minister establish both province-wide and regional forest management advisory boards, that there be enhanced consideration of non-timber resources in making land use decisions and greater integration of departmental programs.

Department staff began work on a detailed evaluation of the report.

Forestry Youth Programs

Junior Forest Warden and Junior Forest Ranger programs continued to be popular choices for Alberta's youth.

The Junior Forest Warden program, sponsored by AFS, provides an outdoor-oriented experience to increase awareness, appreciation, respect and responsible use of the forest environment. It is one of the province's fastest growing youth programs, especially among teens. The program includes 800 volunteers with 3,800 wardens in 92 communities. A marketing plan to attract corporate sponsors to meet the program's expansion goals for the 90s was completed.

During the year:

- the summer camp program was expanded with adventure opportunities for teens;
- more than 50 leader training workshops were held across Alberta;
- wardens planted 90,000 trees throughout the province; and
- the volunteer council system was reorganized to better manage the public demand for the program.

The Junior Forest Ranger work-experience program provided opportunities for 90 men and women between the ages of 16 and 18, to learn and work in Alberta's forests. Eight camps, including a mobile resource crew, performed backcountry clean-ups and trail improvement projects from Footner Lake to Blairmore. More than 4,500 person-days were spent on conservation projects including campsite development, firewood production, habitat improvement, erosion control and bridge construction.

Support from Weldwood of Canada and Weyerhaeuser in hosting crews, allowed the program to expand without an increase in budget.

Forest Industry

Alberta's forest industry is well-established, thriving and a major contributor to the economy with sales of products such as high-quality softwood lumber, bleached kraft pulp, oriented strandboard (OSB), medium density fibreboard (MDF) and chemi-thermo-mechanical pulp (CTMP). The industry has become increasingly diversified and more efficient with respect to fibre utilization.

For Alberta's forest industry, 1990-91 was an important year.

Construction was completed on four major pulp and paper projects; Weldwood of Canada's pulp mill expansion at Hinton, Alberta Newsprint's CTMP/newsprint mill in Whitecourt, Alberta Energy Company's CTMP mill at Slave Lake and Daishowa Canada's pulp mill near Peace River. These projects represent a $1.5 billion capital investment. In all cases, these mills have met or surpassed production and quality targets.

In December, the Alberta-Pacific Forest Industries Inc. pulp and paper project was given final approval for construction. This $1.6 billion investment is to be built on the Athabasca River between the towns of Athabasca and Lac La Biche. The pulp mill is expected to begin operation in mid-to-late 1993.

Major Forest Industry Development Projects

Company	Location	Description	Estimated Capital Cost ($) MM	Estimated Employment Direct	Estimated Employment Indirect	Status/ Completion Date
Weldwood of Canada Ltd.	Hinton	Double capacity of BKP mill	416	370	740	January/90
Weldwood of Canada Ltd.	Hinton	New sawmill	70	120	180	May/93
Daishowa Canada Co. Ltd.	Peace River	Greenfield BKP mill	580	600	1,200	July/90
Alberta Newsprint Co. Ltd.	Whitecourt	Greenfield CTMP/newsprint mill	406	375	750	August/90
Sundance Forest Industries Ltd.	Edson	New sawmill which uses Swedish technology	29	210	315	August/90
Alberta Energy Co. Ltd.	Slave Lake	Greenfield CTMP mill	182	122	245	December/90
Consumers Paper Corp.	Redcliff	Recycled fibre tissue mill	45	120	240	Mid-to-late/93
Sunpine Forest Products Ltd.	Rocky Mountain House	Sawmill complex and fibreboard plant	33	267	400	Mid/93
Alberta-Pacific Forest Industries Inc.	Athabasca	Greenfield BKP mill and fine paper mill	1 600	1 300	2 600	Mid-to-late/93
Total			**3 361**	**3 484**	**6 670**	

CTMP = chemi-thermo-mechanical pulp
BKP = bleached kraft pulp

During the year, many of Alberta's lumber producers focused their efforts on offshore markets. The department provided technical and marketing assistance to these mills and began negotiating a cooperative market development program with the federal government and Alberta's forest industry. The objective of this program is to promote access to overseas markets.

Research and Development

The functions of the Forest Research Branch were redistributed within AFS with little impact on the current research being done. Forest management research included: testing the "Intelligent Fire Management Information System"; testing forward looking radar for detection of fire hot spots; studies on aerial spraying of B.t., a non-chemical insecticide; studies on the growth and yield of regenerated stands; genetics and tree improvement; and the effects of grazing and grain seeding on regenerating aspen cutblocks.

An active Alberta Forest Research Advisory Council (AFRAC) achieved greater coordination of forest research. This Council establishes research priorities in such areas as forest management, environment, forest protection, and product development.

Greater emphasis is being placed on forest products research and development. Research and development are essential to keep Alberta on the leading edge of forest product technology. The department assists companies in maintaining their competitive edge, and helps new and existing products gain performance recognition in markets outside Alberta. Cooperative efforts in applied technology remain important to improve the utilization of Alberta's forest resource and fibre residue.

Renewable Resource Development

In conjunction with Alberta's timber resource strategy, the department promotes the development of other renewable resource development efforts. These include commercial recreation projects such as four-season resort complexes, golf courses and lodge developments. During the year, provincial, national and international tourism and recreation industries were assisted to promote and facilitate renewable resource investment in Alberta.

Public Land Disposition Activity

About 2.89 million ha of public land (4.4 per cent of the provincial land base) are under lease, permit or licence for grazing, agricultural, commercial or industrial purposes. Another 0.23 million ha are under sale agreement, largely for agricultural activities.

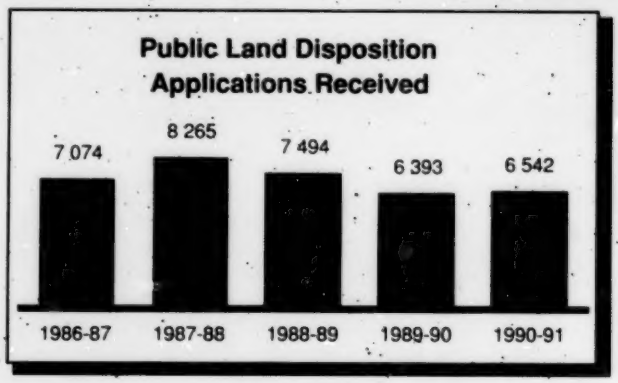
There were 6,542 applications from industry and the public for dispositions. During the year, 6,556 dispositions and 4,750 letters of authority were issued and there are now over 91,000 dispositions and letters of authority in effect.

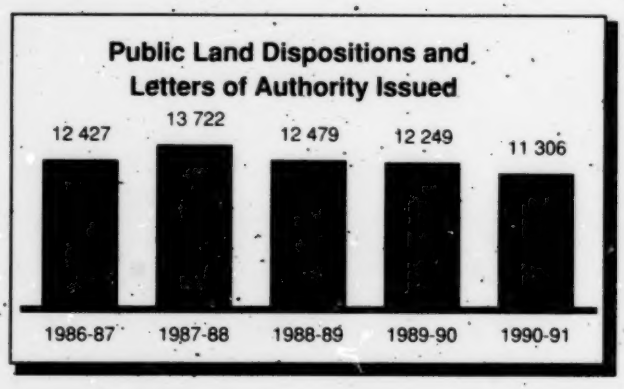
Projects Funded at the Alberta Research Council

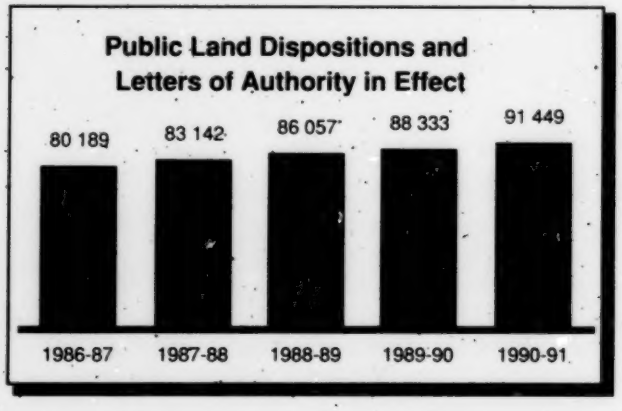
- Evaluation of calcium carbonate deposits in Alberta for use in papermaking.
- Performance assessment of the dimensional stability and fire retardancy of oriented strandboard in order to encourage its use in specialty applications.
- Examination of the options to expand the capabilities of the Forest Products Testing Laboratory.

Forest Products Research Projects With Industry

Company	Description
Weyerhaeuser Canada Ltd.	Tested performance of oriented strandboard coated with fire retardant
Majestic Forest Products Corp.	U.S. market acceptance of pine shakes
FMI Ltd.	Assessed lumber grader optimizer
Stake Technology Ltd.	Evaluated different waste paper that could be used as furnish to produce recycled fibre
Millar Western Pulp Ltd.	Undertook waste water treatment trials
BPCO Ltd.	Ran trials to produce coreboard using recycled fibre







The Commercial Tourism and Recreational Leasing (CTRL) process, a four stage interdepartmental review process for major commercial and recreational tourism applications, successfully completed its second year. Between April 1990 and March 1991, 37 CTRL applications were received. During the year 10 applications were approved, 17 were withdrawn or cancelled, 5 proposals were pending policy reviews and 5 did not qualify under the CTRL process. These were changed to the regular disposition review process.

New *Provincial Geophysical Guidelines* to protect Crown land and resources in areas of oil and gas exploration were completed and distributed.

Protected Lands

A significant portion of public land in Alberta has been given protected status for conservation, recreation, ecological and other purposes.

In total, there are 118 designated Natural Areas totalling 35,585 ha and an additional 165 sites totalling 80,500 ha under protective notation for Natural Areas purposes.

Natural Areas protect sensitive or scenic public land from disturbance and ensure sites remain in a natural state for recreation, education and natural heritage-appreciation activities. Six new Natural Areas totalling 5,275 ha (Scalp Creek, Caribou River, Fourth Creek, La Saline, McGregor Lake and White Earth Valley) and a substantial addition to the existing Canmore Flats, were designated under the *Wilderness Areas, Ecological Reserves and Natural Areas Act*. In addition, six new sites were placed under protective notation for Natural Area purposes under the *Public Lands Act*. These are Bleak Lake, Clifford E. Lee, Noel Lake, O'Chiese, Perryvale and Ponton River, totalling 4,041 ha.

The Volunteer Steward Program enlists the support of individuals, groups, organizations and corporations to assist with on-site management of Natural Areas. There are 202 stewards registered with the program.

Prairie Conservation Coordinating Committee

The department continued to play a significant role in supporting the work of the Prairie Conservation Coordinating Committee (PCCC), the largest multi-partite environmental committee of its kind in Canada. Four dozen member agencies represent all levels of government, non-government organizations, special interest groups, industry, agricultural organizations, regional planning commissions and academia in implementing the Prairie Conservation Action Plan (PCAP), designed to conserve the biological diversity of prairie and parkland ecosystems.

Public Land Conservation

Public lands requiring special management or protection such as wetlands, slopes susceptible to erosion or critical wildlife habitat, are protected through a reservation/notation system. About 3.6 million ha have been identified for such reasons. As well, soil conservation on

STATUS OF LANDS IN ALBERTA

as of March 31, 1991

	Area km²	Area miles²	% of Alberta
Privately Owned Land	185 754	71,720	28.1
Public Lands			
• Under disposition leading to title	2 305	890	0.3
• Under disposition not leading to title	28 917	11,165	4.4
• Special Areas [a]	11 652	4,499	1.8
Provincial parks, wilderness and recreation areas	2 450	946	0.4
Willmore Park, natural areas, ecological reserves	5 201	2,008	0.8
Metis settlements	5 053	1,951	0.8
Indian reserves	6 674	2,577	1.0
Non-settled public lands			
• Forested lands within the Green Area [b]	256 896	99,188	38.9
• Forest management agreement areas	75 136	29,010	11.3
Vacant public land (within White Area) [c]	17 532	6,769	2.6
Federally controlled lands (national parks, research stations, Department of National Defense, etc.)	63 615	24,562	9.6
Total Area of Alberta	**661 185**	**255,285**	**100.0**
Land	644 389	248,800	97.5
Water	16 796	6,485	2.5

Source: Public Lands Division

[a] Includes some tax recovery lands.

[b] Green Area: Forested lands withdrawn from settlement, managed for forestry and other multiple uses.

[c] White Area: The settled area of the province, including the settled area of the Peace River Region. Public land in this area is managed for multiple use, including agriculture, pursuant to the *Public Lands Act* and regulations.

CROWN LANDS WITH PROTECTED STATUS IN ALBERTA

as of March 31, 1991

	Number of Sites	Area (km²)	% of Alberta
Legislated Sites			
National parks	5	54 063	
Forest land use zones	10	5 501	
Willmore Wilderness Park	1	4 597	
Forest recreation areas	173	1 214	
Provincial parks	62	1 277	
Wilderness areas	3	1 010	
Natural Areas	118	356	
Ecological reserves	12	248	
Provincial bird sanctuaries	7	520	
Migratory bird sanctuaries	4	142	
Provincial wildlife areas	1	58	
Wildlife habitat development areas	3	31	
National wildlife areas	3	4	
Provincial recreation areas	54	115	
Historic sites	1	2	
TOTAL		**69 138**	**10.5**
Under Protective Zoning			
In Eastern Slopes			
• Prime Protection		12 794	
• Critical Wildlife		5 932	
Within Other IRPs		2 728	
TOTAL		**21 454**	**3.2**
Under Reservation*			
Forest Recreation Areas	295	1 466	
Provincial parks/provincial recreation areas (CNT)	9	1 487	
Provincial parks/provincial recreation areas (PNT)	23	518	
Natural Areas (PNT)	165	805	
Ecological Reserves (PNT)	3	43	
TOTAL		**4 319**	**0.7**

* Under Consultative Notation (CNT) / Protection Notation (PNT)

2.4 million ha of public rangeland is a priority. To help manage these resources, work continued on an extension of an Alberta network of permanent rangeland reference sites.

The protection of shorelines received increased attention through new education initiatives and enforcement efforts. Watershed and wildlife values on public land sold to farmers were protected through a program that places caveats on buffer strips along small watercourses. About 1,000 agreements, mainly in the Peace River region, are in place.

Reclamation

Land leased for industrial purposes must be reclaimed by the lessee to its natural state. In cases where operators are delinquent for reasons such as bankruptcy, the department must reclaim the sites and 25 contracts were awarded, totalling $114,000.

A significant amount of funds were also spent on the cleanup of sites where dispositions had not been granted and no one could be held responsible for the unauthorized disturbances. Funds were also used to reclaim sand and gravel pits that the department provides for the public.

Aggregate Inventory

Since 1976, an aggregate inventory has been conducted in conjunction with the Alberta Research Council. The inventory assists in land management decision making, resource planning and land allocation. Approximately 55 per cent of the province has been inventoried. During 1990-91, the inventory focused on the Athabasca region in light of the Alberta-Pacific pulp and paper project.

Surface materials (mainly aggregate) generated $2.1 million revenue, of which royalties accounted for $1.8 million while surcharges for future pit reclamation, rental charges and fees made up the balance.

Grazing Reserves

Grazing reserves help to diversify and stabilize the province's agricultural industry by providing summer pasture for small-scale farmers and ranchers, freeing their privately owned lands for crop and hay production.

There are 32 provincial grazing reserves, covering 0.29 million ha. They accommodated 309,000 animal unit months of livestock grazing, which represents 85,000 mature head of livestock. A total of 1,733 patrons benefitted from the program.

Grazing reserves also offer a variety of multiple use opportunities. Recreational activities such as hunting, hiking, trail riding, cross-country skiing, snowmobiling,

camping and wildlife viewing are of particular interest on reserves closest to urban centres. Reserves provide excellent wildlife habitat. Other users are oil and gas well operators, pipeline companies, gravel haulers, seismic crews and firewood cutters.

Development of grazing reserves continued with contracts totalling $1.88 million for working down, seeding, reseeding, regrowth control, fertilizing, fencing, construction of dugouts and irrigation. The Alberta Heritage Savings Trust Fund contributed $1.4 million of this total.

Range Improvement

The Range Improvement Program provides indirect assistance, such as rental credits, to farmers to maintain and increase the carrying capacity of their grazing dispositions. Improvements are detailed in a plan that recognizes the sustained yield of the native and tame forage resource and incorporates multiple uses such as wildlife habitat, forestry and recreation. During 1990-91, 164 new applications were received and 188 projects were completed. Range improvements included brush control, seeding, trail development, cross-fencing and water systems development.

Range Management

The Range Management Program provides professional and technical support to livestock producers focusing on improving range conditions and managing for increased integrated resource use.

More than 1.1 million ha in the Green Area provided more than 183,000 animal unit months of grazing for domestic livestock.

Inventories and range resource management plans were developed for approximately 209,000 ha of rangeland in the White Area. In the Green Area, ten range management plans were approved in consultation with various land users. These plans are designed to enhance forage productivity and maintain or improve the condition of the range in consideration of water and soil quality and wildlife needs.

Rangeland reference areas continued to be monitored to determine long-term vegetation change and compare the range species trend for grazed and ungrazed sites. Range condition models are developed based on this data. Preliminary carrying capacity guides, to determine forage productivity and the condition of various plant communities, were developed and will be updated annually.

Demonstration and study sites were established jointly with private and government agencies to study: the effect of industrial activity on different types of rangeland; biological control methods for woody regrowth and weeds; and the interaction of wildlife and grazing management on public lands.

Other activities included carrying out prescribed burns to control woody regrowth on two grazing reserves, evaluation of 21 leases bordering lakes and streams and development of special management plans.

Increased public demand for multiple use of rangelands increased the need for public education. A number of reports and publications were produced and many presentations and seminars were held.

Integrated Resource Planning Program

The IRP program is a key means of achieving the Alberta government's philosophy of integrated resource management. IRPs are the management policy for public land and resources within a planning area.

Public involvement is an integral part of the IRP program to ensure plans reflect the views of Albertans. This program includes open houses, information exchanges and roundtable meetings. Various newsletters and brochures were developed to keep the public informed.

Work continued on four regional, seven subregional and seven local integrated resource plans.

Interdepartmental Referral Systems

A number of policy-level interdepartmental referrals were processed including:

- 17 Environmental Impact Assessments (EIAs) – coordinated by Alberta Environment, EIAs assist decision makers and the public in understanding, at the proposal stage, the environmental consequences of a development;
- 20 Energy Resource Conservation Board (ERCB) applications;
- 37 lease applications through the Commercial Tourism and Recreation Leasing (CTRL) process;
- 8 preliminary disclosures and 4 reclassifications of land applications under *A Coal Development Policy for Alberta, 1976* or *A Policy for Resource Management of the Eastern Slopes, Revised 1984*; preliminary disclosure is a service provided to prospective developers to indicate any objections to their plans, in principle, at an early stage.

Land-Related Information Systems Project

The Land-Related Information Systems (LRIS) Gateway will provide province-wide remote, electronic integrated access to land-related information systems.

In December, following the signing of an agreement with three utility companies, the Alberta Cabinet made a four year, $24.6 million commitment to fund completion of the LRIS Parcel Mapping Project and development of the LRIS Network.

A business entity was proposed to operate LRIS Network as a business, on a cost-recovery basis. A business plan was developed to define costs and projected revenues for this new entity to be known as Land Information Alberta (LIA). A communications plan was endorsed to promote LRIS Network benefits, build and maintain support for the project and enhance its corporate image. As part of the communications activities, 12 presentations were made at conferences and seminars throughout the province and six issues of the *LRIS Newsletter* were produced.

The LRIS Project was showcased at the international Urban and Regional Information Systems Association (URISA) conference held in Edmonton.

Land Survey System

The land survey system preserves and maintains the boundaries governing the extent of interest in land within the province, under the authority of the *Surveys Act*, the *Boundary Surveys Act* and the *Land Surveyors Act*.

In accordance with the *Land Surveyors Act*, the Examination and Training Amendment Regulation became law on August 23, 1990. This legislation provides a credible process for administering articles of training as well as a forum for discussion between the principal and student prior to and during the period of articles.

A proposed *Surveying Professions Act* was referred to the Alberta Professions and Occupations Bureau for review and comment.

Professional standards for land survey practices and plans of survey were monitored through field checks and plan examination.

Maps Alberta Distribution Services

On a cost-recovery basis, Maps Alberta distributes maps, legal plans, aerial photography and survey data produced by the provincial and federal governments. Annual sales reached $1,966,111. This slight increase over last year's sales of $1,955,228, creates a small surplus in the division's revolving fund.

Planning began for the purchase of a point-of-sale computer system to support Maps Alberta's map and photo sales and the LRIS Project. As well, distribution of data to the surveying community from the Multipurpose Alberta Survey Control Operations Automated Distributed Data project began via remote access.

Funding generated from digital data sales was generated to further define maintenance alternatives for the 1:20 000 mapping program.

Resource Information Services

Collection continued of base line data, aerial photography, satellite imagery, resource mapping, land use evaluations and resource data analysis to support the department's natural resource management programs.

The Alberta Vegetation Inventory (AVI) of critical vegetation areas on the fringe of Alberta's forested lands, was completed in cooperation with Alberta's forest industry and mapping companies. Inventories were produced in digital form and geographically referenced to the province's primary geopositioning network. The project scope and terms of reference were identified to manage the AVI data.

A mapping subsystem for the Alberta Bird Atlas Project was implemented.

A strategic plan was produced for a Crown Land Activity Mapping System which will provide low and high resolution mapping capabilities compatible to the LRIS Parcel Mapping Project.

A high altitude, airborne, imaging project was coordinated with Forestry Canada. The mission was flown by the United States National Aeronautics and Space Administration (NASA) in a special ultra-high altitude aircraft and resulted in aerial photography and related data for 7,100 km of the province.

Five major projects were completed involving digital image processing demonstrations for forest and wildlife habitat classifications, satellite image selection and acquisition for resource assessment and mapping.

Detailed range vegetation inventories were completed on four grazing allotment projects. New permanent plots were established in northern Alberta and, in

support of the department's research requirements, comprehensive data was collected throughout the province on existing plots, regeneration performance and forest stand dynamics plots.

Ecological studies were completed for six Natural Areas. Environmentally significant area (ESA) studies were completed for the municipal districts of Acadia, Starland and Kneehill.

The department's 1:1 000 000 administrative map series was converted to digital format.

Surveying and Mapping

Surveying and mapping programs include: establishing and maintaining the provincial coordinate system as a standard for referencing land-related information, establishing and maintaining large, medium and small scale provincial base maps; coordinating the provincial photogrammetric control system; and developing standards, specifications and expertise for all these systems.

The department continued to provide thematic mapping services to other government departments and coordinate program delivery with the private sector as well as all levels of government across Canada.

The towns of Barrhead, Grimshaw, Gibbons and Beaumont entered the Municipal Integrated Surveying and Mapping (MISAM) program, which is administered under a municipal/provincial cost-sharing agreement. Under this program, new mapping was completed for Medicine Hat, Leduc, Lacombe, High River, Wetaskiwin and Strathcona County.

A three year program was launched to place four or more Global Positioning System (GPS) control points in towns with populations over 400. The goal is to strengthen the control for the parcel mapping project for those towns not already part of MISAM.

The Multipurpose Alberta Survey Control Operations and Task System, used to manage and compute geodetic data, was made available to the British Columbia government.

Existing observational data was validated in preparation for the adoption of the new national standard NAD83 horizontal datum and readjustment.

The 1:40 000 digital file and hard copy maps for the cities of Edmonton and Calgary were completed, lithographed and distributed through Maps Alberta.

Funding was approved for parcel mapping and 33 contractors were hired. This included an agreement with a utility company to complete parcel mapping within 211 predetermined areas. This activity resulted in major revisions to the Alberta Township Coordinates in certain areas.

Geodetic survey markers were placed in 52 smaller urban centres as a coordinate reference for Parcel Mapping. An additional urban centre, Athabasca, was included under a joint project with Alberta Environment.

One week of instruction on Electronic Distance Measuring (EDM) systems was provided to University of Alberta Engineering students.

245 new digital files were completed under the 1:20 000 Provincial Digital Base Mapping project, bringing the project to 75 per cent completion. Additionally, 10 digital files were completed under the 1:20 000 Towns project.

Fish and Wildlife Enforcement

Report A Poacher received 3,800 reports of illegal fish and wildlife activity; 1,274 reports on the 1-800-642-3800 phone line and 2,526 made directly to Fish and Wildlife district offices. As a result, 207 individuals were eligible for cash rewards and a total of $36,200 was paid out. The Alberta Snowmobile Association added their official support to the program and the Rural Crime Watch Association voted to make Fish and Wildlife an affiliate of their program.

FISH AND WILDLIFE ENFORCEMENT

	1989-90	1990-91
Occurrences		
Problem wildlife	10 000	9 385
Enforcement	6 761	5 851
Found wildlife	10 533	10 642
Miscellaneous	2 395	3 422
Total	**29 689**	**29 300**
Violations		
Prosecutions	4 604	4 134
Report A Poacher		
Illegal hunting and fishing	1 503	3 800
Non-applicable	4 591	5 026

Continuation of the District Enforcement Enhancement Program resulted in six new Fish and Wildlife officer positions, including an information officer in Calgary and a second laboratory scientist position for the division's Forensic Unit.

The department continued to monitor information regarding the alleged abuse of wildlife. Six short-term and one long-term investigation were concluded which resulted in 226 charges laid, with 37 prosecutions pending. Court fines for these offences totalled $44,450. Two long-term operations are on-going.

Conservation Education

During the year, approximately 6,000 volunteer instructors presented the Conservation Hunter Education program to over 15,000 Albertans. Since it was introduced in 1964, more than 200,000 people have completed this program. Conservation Education camps were attended by 6,000 students and more than 7,000 people were certified in the Fishing Education program.

Alberta hosted the International Project WILD Conference with 120 attendees from locations throughout North America. Estimates are that 5,500 leaders were trained as Project WILD facilitators and over 100,000 students were involved in at least one program activity.

Wildlife and Habitat Management

The updated *Status of Alberta's Wildlife* was published. The report reviews the biological status of Alberta's 441 wildlife species (including those that migrate through the province). It evaluates the current and projected status of a population and its habitat, sorts species into lists based on similar status and provides background information for species at risk or those that may require special management.

The "Threatened Wildlife" brochure series was expanded to six with the addition of the woodland caribou, piping plover and swift fox. This series, designed to increase awareness of threatened species, is available to educators and the public.

The department participated on nine national recovery teams in the management of endangered wildlife. Provincial recovery plans are near their final stages for most endangered species, plus a number of species at risk.

Work began on a proposal to protect key environmentally sensitive and significant prairie areas that are important to endangered wildlife. Three peregrine falcons fledged from the AGT building in Calgary.

This was the third and final year for the Prairie for Tomorrow program. Work to protect nesting habitat for piping plover at Fish Lake was completed as was a provincial breeding survey for piping plovers. A technique to inventory burrowing owls was developed, tested and yielded positive results. Operation Burrowing Owl, a cooperative program with the Alberta Fish and Game Association, saw 225 farmers sign up to protect the nesting habitat of burrowing owls.

To protect an important ecosystem that serves as habitat for a variety of wildlife species, a cottonwood management plan was drafted and implemented. Under the plan, conservation programs were implemented on a number of southern Alberta river systems, where flow conditions were impacting the survival of the cottonwood communities.

A cooperative study with Weldwood of Canada Ltd. was undertaken to determine movement patterns, population structure/size and critical habitat for woodland caribou in the company's forest management agreement area north of Slave Lake.

A research program was initiated to investigate basic biological characteristics of a caribou herd in the northeast Wabasca boreal forest area. This project will determine caribou numbers, movement, habitat use and critical areas, as well as the effects of various disturbance factors on population dynamics. In January, a total of 10 caribou were captured and equipped with radio collars. Biweekly tracking continued to the end of March.

In order to conduct a long-term bighorn sheep study, 32 sheep were tagged on Ram Mountain and 31 sheep were tagged at Sheep River Sanctuary.

This was the third and final year of a cooperative agreement among the governments of Alberta and Saskatchewan and the Canadian Wildlife Service, to examine the feasibility of reintroducing the swift fox to the Canadian prairies. The final report is due in mid-1992.

Under the Buck for Wildlife program, 133 wildlife and fish habitat enhancement projects were carried out. An additional 55 projects were implemented by nongovernment organizations, such as the Alberta Fish and Game Association, Trout Unlimited and Ducks Unlimited with funding in the form of grants. These projects protected and enhanced over 21,900 ha of wildlife habitat and 10,900 ha of fish habitat.

Expenditures for development of fish habitat amounted to $873,575 and $2,752,399 for wildlife for a total of $3,625,974. Nongovernment organizations contributed an additional $1,926,591 towards 24 projects as well as

providing volunteer labour and other services while other government agencies contributed $805,723 towards 11 projects.

Following an announcement that the Municipal District of Acadia was selling most of their deeded land, the department arranged a trade of 60 quarters with significant habitat value for an equivalent number of Crown quarters with less habitat value.

Two important habitat management programs completed the second year of activity. These programs, Partners in Conservation (a partnership with County of Barrhead) and CONSERV*ACTION (a partnership with County of Strathcona, Sherwood Park Fish and Game and Environment Canada) work with landowners to balance agricultural pursuits and habitat conservation initiatives. These programs will achieve three objectives: to enhance wildlife habitat opportunities; conserve soil and water conservation through proper management; and stimulate residents' awareness of their environment by hands-on involvement in conservation projects. Both programs are show pieces and have generated interest from other municipalities.

Work continued in year two of a three year cooperative ventures agreement with the Eastern Irrigation District to protect the area's key wetlands and important upland gamebird habitat. A number of wildlife habitat enhancement projects were undertaken in the Eastern Slopes Region in cooperation with the Alberta Fish and Game Association and the Rocky Mountain Elk Foundation.

A 20-year agreement was successfully completed with the Western Irrigation District where approximately 180 ha of upland habitat on their canal's right-of-way were secured.

The North American Waterfowl Management Plan (NAWMP), a mammoth wetlands conservation effort funded jointly by partners in the United States and Canada (including Ducks Unlimited, federal, provincial and state governments and Wildlife Habitat Canada) saw some major accomplishments. Habitat restoration efforts that will benefit a variety of waterfowl and wildlife species will proceed over a period of 15 years. The Buffalo Lake First Step Project, funded through NAWMP, acquired over 800 ha of prairie upland and wetland habitat.

Detailed planning and funding commitments from government and nongovernment organizations were finalized with the annual expenditure in Alberta of $16 million. Under NAWMP, several soil conservation initiatives were implemented in cooperation with agricultural agencies to encourage land management practices that benefit both the wildlife resource and the landowner.

The *Management Plan for Grizzly Bears in Alberta* and the *Management Plan for Pronghorn Antelope in Alberta* were published and, with the *Mule Deer Management Plan*, provide a reference for regional staff in establishing population goals at the wildlife management unit level. Efforts continued to complete management plans for the remaining big game species.

The Brooks Pheasant Hatchery released 39,026 pheasants and a draft pheasant management plan for Alberta was prepared.

Through the creative drive of the Alberta Bird Atlas committee and supporting agencies, the field activities of the program drew to a successful close. A mapping subsystem was implemented and the program moved into the publishing phase.

A partnership was struck with Lone Pine Publishing to publish the regulation guides for sportfishing, big game and bird game hunting.

The Watchable Wildlife Program developed and promoted a provincial network of designated wildlife viewing sites through the publication and marketing of the *Alberta Wildlife Viewing Guide*. A directional road sign program, undertaken and cost-shared with Alberta Transportation, was implemented to help the public locate sites. A study, "Marketing Watchable Wildlife Tourism in Alberta", was completed in cooperation with Alberta Tourism. In partnership with Alberta Tourism and the Recreation, Parks and Wildlife Foundation, the department launched a major survey to determine the participation and interests of Albertans in various wildlife viewing activities.

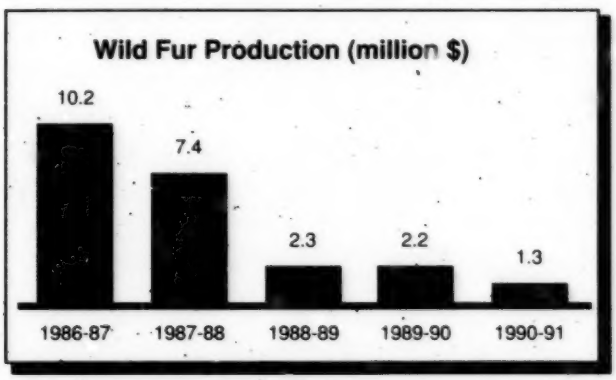
The Outfitter-Guide Policy resulted in revenues of approximately $1 million. Under this policy, which works through close liaison with the Professional Outfitters Association of Alberta, all non-resident hunters must contract a licenced outfitter-guide before obtaining licences.

Several important changes to big game recreational hunting regimes were instituted. These included limited-entry draw seasons for bull moose in the forest/agriculture fringe units of central Alberta as well as for bull elk in ten mountain/foothill management units, including Kananaskis Country. A major change in cougar hunting management saw the season extended from one to three months, subject to quotas for individual wildlife management areas. In addition, ten

road corridor wildlife sanctuaries were put in place to control excessive deaths of ungulate along certain eastern slopes and northwest roads.

The only significant change with respect to gamebird hunting was the establishment of a spring limited-entry draw hunt for Merriam's turkey in the Porcupine Hills. Forty-nine licences were sold and 44 participating hunters harvested 19 birds.

Although the lynx cycle is well advanced in northern Alberta, depressed fur prices resulted in fewer of these species taken as compared to last season. A total of 1,146 lynx, 693 fisher and 20 wolverine were registered.

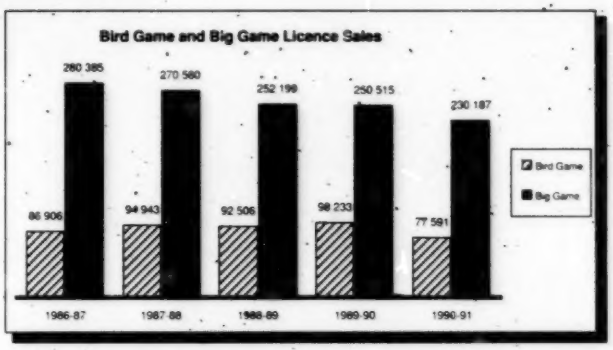


Additionally, 173 fisher carcasses were collected and examined and the data indicated that no change to quotas for this species should occur for the next season.

Major decreases from last year occurred in beaver, muskrat and squirrel. This, along with the reduction of marten, which had been the top value fur producer for the past four years, accounted for the greatest decrease in value. Overall fur production value was $1.3 million, a decrease of $.9 million or 40 per cent from last year. Fur prices are expected to rise since inventories accumulated by manufacturers over the past years are decreasing.

Trapper Education courses were conducted at 16 locations and completed by 200 participants.

Canadian Hunter and Esso Petroleum contributed to an aerial inventory of woodland caribou in the Chinchaga/ Fontas area to develop a short-term strategy for protecting the local herd. Home Oil and Wood Buffalo National Park contributed funds to complete an aerial inventory of the Caribou Mountains. This data is being examined to determine conditions that will allow seismic activities to proceed. Daishowa Canada and Weldwood of Canada contributed to an ongoing inventory of wildlife in their respective forest



management agreement areas. As well, Weldwood continued their forestry/wildlife integration project and began developing computer models to predict wildlife habitat conditions after logging.

Parasite and disease research again focused on concerns regarding the potential translocation of parasites in cervids. In cooperation with the University of Alberta, experimental infections of meningeal worm in a variety of species (elk, fallow deer, mule deer, domestic sheep) were completed and the results are to be presented in a scientific report. Elk translocated from Elk Island National Park were treated to kill giant liver fluke using a protocol developed in previous research undertaken by Fish and Wildlife. The mortality of double-crested cormorants with Newcastle disease virus was investigated in conjunction with the Western College of Veterinary Medicine.

In March, Alberta hosted the 56th North American Wildlife and Natural Resources Conference for the first time. This international gathering of wildlife resource administrators and managers from across the continent attracted more than 1,000 delegates.

Fisheries and Habitat Management

A total of 1.6 million rainbow trout were stocked into provincial lakes as well as 321,000 brown trout, 731,000 brook trout and 67,600 cutthroat trout. In addition, 30,000 yellow perch were transplanted from donor lakes and 39,898,000 walleye were raised at the Cold Lake Fish Hatchery and released into lakes.

In nine different waterbodies in southern Alberta, where walleye were not present, 31,858,000 fry and 643,500 fingerlings were released. With the longer open water season in the south it is expected that these walleye will be the basis of excellent angling opportunities in years to come. An additional 7,395,000 walleye were stocked into northern Alberta lakes to enhance existing populations.

Work continued on the Vauxhall Marsh Complex Wetlands for Tomorrow project and the Tyrrell/Rush Lakes and the Stirling Lake Wetlands for Tomorrow programs were completed.

Values of instream flow needs for fish were established for the Highwood River. The department participated in a public process to establish a water management strategy to meet the needs of all users of water in the Highwood River basin.

Data collection and analysis proceeded on other rivers including the Oldman, St. Mary, Belly, Waterton and the Bow (from upstream of Calgary and downstream to the Bassano dam).

This was the third year for the grass carp introduction feasibility study to control aquatic vegetation in irrigation canals and the department continued to develop fisheries and wildlife mitigation programs for the Oldman River Dam.

Evaluation of Alberta's Eastern Slopes stream fisheries management program on the West Castle River and Dutch Creek continued. Trout populations are remaining stable or increasing, providing more fish of a catchable size.

On the Bow River, volunteers completed trout population estimates using new methods for data collection and analysis. The trout spawning tributaries to the Bow River were sampled for Infectious Pancreatic Necrosis (IPN) virus and the Red Deer River fish populations were sampled to determine species distribution and abundance.

Eradicating IPN virus from Sam Livingston Fish Hatchery progressed extremely well through 1990/91. Ponds, storage and administrative areas were disinfected along with final repairs to incubation, trough and Burrow pond areas. The recirculation system remains the only major component still to complete. The facility will be fully restored to production in late 1991 with full production achieved in 1992/93. Eradication of IPN at Raven Brood Trout Station appears to have been fully successful. This facility will return to full egg production potential in 1992/93 as 1989 replacement brood stock reach maturity.

Involvement of the public at the community level in examining fish management issues was initiated in the Lac La Biche area. The Lac La Biche Fisheries Advisory Committee, with representatives of local Indian bands, fish and game association, commercial fishermen, Town of Lac La Biche, improvement district and the business community, reviewed several fisheries matters and submitted recommendations.

The Great Plains Fishery Workers Association workshop was hosted in Lethbridge in February. Approximately 130 people from fish and wildlife agencies from the prairie provinces and west-central United States attended. Presentations ranged from the assessment of special angling regulations on fish populations to a recreational fishery use model for southern Alberta.

The department provided grants and assistance to Trout Unlimited for the initiation of a major stream rehabilitation project on Clear Creek in the Eastern Slopes region.

In its first year of operation, the Fisheries Enhancement Fund provided $1.3 million for 42 projects. A portion of the sale of each sportfishing licence goes toward the fund. Representatives from the department, Trout Unlimited, the Western Walleye Council, the Alberta Fish and Game Association and the University of Lethbridge determined allocation of the monies.

The commercial fishery harvest was similar to that in 1989-90, with 1,709 commercial fishermen catching 2,210 tonnes of fish. This harvest has a landed value of $2.49 million which, due to improved fish prices, is an increase of 10 per cent over last year.

Resource Management Assistant Program

The Resource Management Assistant (RMA) program for Aboriginal Albertans is a post-secondary education program involving the department, Alberta Advanced Education, Alberta Vocational College Grouard Campus and Lethbridge Community College. In 1990-91, after completing various project positions and graduating, a number of RMAs attended Lethbridge Community College in the Renewable Resource diploma program. As well, Native Liaison Officers were recruited and stationed in Calgary, St. Paul, Peace River and Edmonton. Their efforts are being directed toward increased dialogue with Native groups and promotion of the Project WILD and Conservation Education programs.

Statement of Revenue

For the year ended March 31, 1991 (Unaudited)

	1990/91 ($000)	*1989/90 ($000) (restated)* (Note 1)
Licences and Fees		
Fishing licences	$ 1,417	$ 1,369
Game licences	4,807	4,954
Parcel Mapping Program (Note 2)	3,030	0
Landman licencing fees	29	31
Forest Technology School fees	610	494
Timber dues and fees	18,053	17,443
	27,946	**24,291**
Dispositions, Leases and Permits		
Agriculture leases and permits	374	467
Grazing dispositions and reserve fees	6,467	6,280
Miscellaneous use and recreational leases and permits	895	996
Oil, gas and mining surface leases	11,791	10,049
Sand and gravel dispositions	2,052	1,997
	21,579	**19,789**
Provincial/Federal Government Agreements		
Timber export taxes	12,059	14,761
Other	739	996
	12,798	**15,757**
From Revenue Producing Assets	1,195	1,168
Sales of Assets		
Homestead and Land Sales	2,832	3,423
Expenditure Recoveries (Note 2)	866	2,999
Miscellaneous	165	340
Total Revenue	***$67,381***	***$67,767***

Prepared by General Accounting, Financial Services Division, September 10, 1991
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Statement of Expenditures

For the year ended March 31, 1991 (Unaudited)

	1990/91 ($000)	*1989/90 ($000) (restated)* (Note 1)
Divisions		
Fish and Wildlife Conservation	$ 24,902	$ 23,670
Alberta Forest Service/Forest Industry Development	92,052	92,866
Public Lands Management	19,438	19,874
Land Information Services	19,687	17,223
Financial and Administrative Services	9,830	9,645
	165,909	163,278
Central Support Services	1,694	1,557
Special Warrants and Special Programs		
Fire Suppression Activities	41,096	11,209
Indian Land Claims Settlement	-	12,746
Subsidiary 5 Agreement (Note 3)	1,230	-
	42,326	23,955
Total Expenditures	***$209,929***	***$188,790***

Notes to the Financial Statements for the year ended March 31, 1991

Note 1 - Comparative Figures
The 1989-90 figures have been restated where necessary to conform to the 1990-91 presentation.

Note 2 - Statement of Revenue
Parcel Mapping Program started in January 1991 to collect fees from utility companies to parcel map the province.

The 1989-90 Expenditure Recoveries was unusually high due to recoveries resulting from fire suppression activities in the province of Manitoba.

Note 3 - Subsidiary 5 Agreement
Fish and Wildlife and Forest Officer Salary Adjustments as a Result of Subsidiary 5 Negotiations.

Prepared by Financial Analysis and Planning, Financial Services Division, November 14, 1991